

WHAT IS CLAIMED IS

1. An image compressing apparatus dividing an image into plural tiles, decomposing each of the tiles into plural sub band by frequency conversion, and bit plane encoding each of the sub bands for each encoding unit, the image compressing apparatus comprising:

a code discarding unit to selectively discard a code obtained by the bit plane encoding for each encoding unit,

the code discarding unit including a discard amount setting unit to make generally even the amount of code discarding in those encoding units that are in mutually adjacent relationship across a tile boundary.

2. The image compressing apparatus as claimed in claim 1, wherein the discard amount setting unit makes generally even the code discarding amount between the encoding units that are adjacent to each other across a tile boundary and forming the same sub band.

3. The image compressing apparatus as claimed in claim 1, wherein the discard amount setting unit makes generally even the code discarding amount between the encoding units that are adjacent to each other across a tile boundary and forming a sub band lower than a predetermined decomposition level.

4. The image compressing apparatus as claimed in claim 1, wherein the code discarding unit includes a ranking unit, the ranking unit to provide a rank indicative of an order of discarding to a code in each bit plane in each of the encoding units according to an importance of the code,

the discard amount setting unit modifying the rank provided by the ranking unit.

5. The image compressing apparatus as claimed in claim 1, wherein the discard

amount setting unit treats a set of encoding units that are in mutually adjacent relationship across the tile boundary as a single encoding unit and calculates importance of code for each of bit planes for the single encoding unit,

the code discarding unit comprising: an importance calculation unit to calculate importance of the code of the bit plane for each of the single encoding unit; and a ranking unit to provide a rank indicative of order of discarding the code to each code in each bit plane for each of the single encoding units that are adjacent to each other across the tile boundary, according to the importance calculated by the code discarding unit, the ranking unit providing a rank indicative of an order of discarding a code to each code in each bit plane for encoding units that are not in a mutually adjacent relationship across a tile boundary, according to an importance calculated by the importance calculation unit.

6. The image compressing apparatus as claimed in claim 1, wherein the image compressing apparatus uses an algorithm based on JPEG 2000, and wherein a code block is used for the encoding unit.

7. The image compressing apparatus as claimed in claim 6, wherein the encoding unit forms an HL sub band and an HH sub band.

8. An image compressing method for compressing an image by an algorithm, the algorithm dividing an image into plural tiles, dividing each of the tiles into plural sub bands by frequency conversion, and bit-plane encoding each of the sub bands for each encoding unit, the method comprising:

a code discarding step for discarding a code obtained by the bit-plane encoding conducted for each encoding unit selectively, including making generally even a code discarding amount in those encoding units that are adjacent to each other across a tile boundary.

9. The method as claimed in claim 8, wherein making generally even the code discarding amount makes generally even the code discarding amount for those encoding units belonging to the same sub band and adjacent to each other across the tile boundary.

10. The method as claimed in claim 8, wherein making generally even the code discarding amount makes generally even the code discarding amount for those encoding units belonging to a sub band of a specific decomposition level or lower and in a mutually adjacent relationship across the tile boundary.

11. The method as claimed in claim 8, wherein the algorithm is an algorithm based on JPEG 2000.

12. A computer-implemented method for compressing an image by an algorithm, the algorithm dividing an image into plural tiles, dividing each of the tiles into plural sub bands by frequency conversion, and bit-plane encoding each of the sub bands for each encoding unit, the method comprising:

discarding a code obtained by the bit-plane encoding conducted for each encoding unit selectively, including making generally even a code discarding amount in those encoding units that are adjacent to each other across a tile boundary.

13. The computer-implemented method as claimed in claim 12, wherein making generally even the code discarding amount generally even the code discarding amount for those encoding units belonging to the same sub band and adjacent to each other across the tile boundary.

14. The computer-implemented method as claimed in claim 12, wherein making generally even the code discarding amount makes generally even the code discarding amount for

those encoding units belonging to a sub band of a specific decomposition level or lower and in a mutually adjacent relationship across the tile boundary.

15. The computer-implemented method as claimed in claim 12, wherein the algorithm is an algorithm based on JPEG 2000.

16. An article of manufacture having one or more recordable medium storing instructions which, when executed by a computer, cause the computer to compress an image by a method using an algorithm, the algorithm dividing an image into plural tiles, dividing each of the tiles into plural sub bands by frequency conversion, and bit-plane encoding each of the sub bands for each encoding unit, the method comprising:

discarding a code obtained by the bit-plane encoding conducted for each encoding unit selectively, including second program code units for making generally even a code discarding amount in those encoding units that are adjacent to each other across a tile boundary.

17. The article of manufacture as claimed in claim 16, wherein discarding the code makes generally even the code discarding amount for those encoding units belonging to the same sub band and adjacent to each other across the tile boundary.

18. The article of manufacture as claimed in claim 16, wherein discarding the code makes generally even the code discarding amount for those encoding units belonging to a sub band of a specific decomposition level or lower and in a mutually adjacent relationship across the tile boundary.

19. The article of manufacture as claimed in claim 16, wherein the algorithm is an algorithm based on JPEG 2000.

20. A computer specially configured by executing program code stored on a computer-readable medium for causing the computer to compress an image by an algorithm, the algorithm dividing an image into plural tiles, dividing each of the tiles into plural sub bands by frequency conversion, and bit-plane encoding each of the sub bands for each encoding unit, the program code comprising:

a first unit for discarding a code obtained by the bit-plane encoding conducted for each encoding unit selectively,

the first unit including a second unit for making generally even a code discarding amount in those encoding units that are adjacent to each other across a tile boundary.

21. The computer as claimed in claim 20, wherein the second program code unit makes generally even the code discarding amount for those encoding units belonging to the same sub band and adjacent to each other across the tile boundary.

22. The computer as claimed in claim 20, wherein the second unit makes generally even the code discarding amount for those encoding units belonging to a sub band of a specific decomposition level or lower and in a mutually adjacent relationship across the tile boundary.

23. The computer as claimed in claim 20, wherein the algorithm is an algorithm based on JPEG 2000.